

UROGYNECOLOGY

Cost minimization analysis of laparoscopic sacral colpopexy and total vaginal mesh

Christopher F. Maher, MD; Luke B. Connelly, PhD

OBJECTIVE: The objective of the study was a cost minimization analysis of the laparoscopic sacral colpopexy (LSC) and total vaginal mesh (TVM).

STUDY DESIGN: Primary clinical costs were derived from our randomized control trial comparing LSC and TVM and were compared using prices from privately- and publicly-conducted procedures. Womens' opportunity cost of time were added to these estimates to produce estimates of the primary economic costs of the procedures. Reoperation costs were added to estimate the economic cost per subject.

RESULTS: LSC has lower mean primary clinical cost as compared with the TVM in both the public (mean difference, \$1102.96; 95% confi-

dence interval [CI], 468.52–1737.385) and private models (mean difference, \$1176.68; 95% CI, 1116.85–1236.51), respectively. Mean total economic costs were significantly lower in the LSC group as compared with the TVM (\$4013.07; 95% CI, 3107.77–4918.37). Labor costs were significantly greater in the LSC but were offset by lower consumable, inpatient, opportunity, and reoperation costs as compared with the TVM.

CONCLUSION: The LSC has lower economic cost than TVM.

Key words: cost analysis, laparoscopic sacral colpopexy, vaginal mesh repair

Cite this article as: Maher CF, Connelly LB. Cost minimization analysis of laparoscopic sacral colpopexy and total vaginal mesh. *Am J Obstet Gynecol* 2012;206:433.e1-7.

Vaginal prolapse is an increasingly common problem affecting approximately 3–6%^{1,2} of community-dwelling American women, and the lifetime risk of surgery for pelvic organ prolapse varies between 6% and 19%.^{3,4} The need for pelvic organ prolapse surgery increases with age, and it has been conservatively estimated that the surgical workload related to pelvic organ prolapse will increase by 46% over the next 4 decades as our population ages.⁵

Early this century there has been a paradigm shift in the surgical management of urinary stress incontinence from the

colposuspension to the suburethral tapes. This change occurred after suburethral tapes were shown in randomized trials to be as effective as the colposuspension with reduced morbidity⁶ and decreased cost to the community.⁷

The introduction of commercial kit meshes for vaginal prolapse occurred in 2004, and since that time there has been limited evaluation under the auspices of randomized controlled trials (RCTs), the outcomes of the RCT have been conflicting,^{8–12} and no cost evaluation has been performed from these studies. Traditionally gynecologists have based their decisions on surgical interventions based on the success rate, patient satisfaction, perioperative morbidity, and complications.

With rising health care costs, it is now imperative that clinicians include dollar cost of surgical interventions as a vital part of our decision making process. Despite considerable consumable costs, a sparsity of cost-effectiveness data exists on the vaginal prolapse mesh kits that are increasingly utilized in prolapse surgery. Our article presents a cost-minimization analysis (CMA) we conducted using formalized prospective data from our randomized controlled trial comparing the laparoscopic sacral colpopexy and the

TVM for the treatment of vaginal vault prolapse.¹⁰

This single-center, 2-surgeon (a urogynecologist and fellow) study demonstrated that in the perioperative period laparoscopic sacral colpopexy (LSC) was associated with longer operating time, longer admission time, and quicker return to activities of daily living as compared with TVM. At 2 years, on examination there was less recurrent prolapse and lower reoperation rate in the LSC group; however, no difference between the groups was seen in validated pelvic floor questionnaires. The aim of this study was to determine which of these 2 procedures has the lower total economic cost for the treatment for vaginal vault prolapse.

MATERIALS AND METHODS

The CMA was conducted from the societal perspective. Within the Australian health system and within this study government, (public) payment or insurance (private) payment options are available and are detailed in our model (Figure 1). We estimated the full costs of the procedures by capturing not only the financial flows associated with them, including operating room, labor costs, inpatient costs, consumable costs, and public and

From Wesley, Royal Brisbane, and Mater Urogynecology (Dr Maher) and the Australian Center for Economic Research on Health and the Center of National Research on Disability and Rehabilitation Medicine (Dr Connelly), University of Queensland, Brisbane, QLD, Australia.

Received June 24, 2011; revised Dec. 12, 2011; accepted Dec. 12, 2011.

The authors report no conflicts of interest.

Reprints: Christopher F. Maher, MD, 86/30 Chasely St., Auchenflower 4066 Brisbane, Australia.

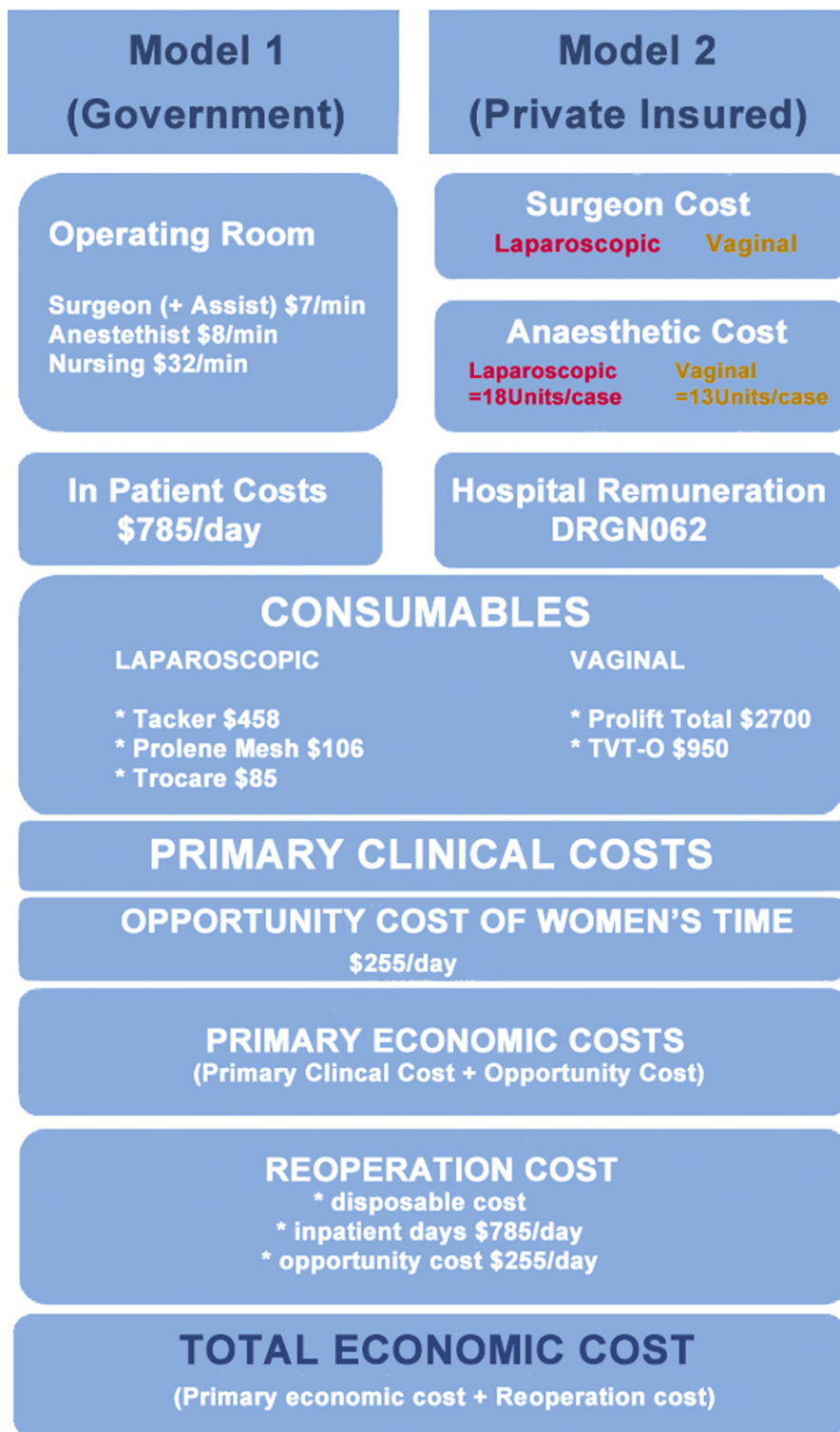
chrismaher@urogynaecology.com.au.

0002-9378/\$36.00

Crown Copyright © 2012 Published by Mosby, Inc. All rights reserved.

doi: 10.1016/j.ajog.2011.12.012

FIGURE 1
Outline of total economic cost calculation including primary clinical cost using public and private expenditure model



Maher. Cost analysis of laparoscopic sacral colpopexy and total vaginal mesh. Am J Obstet Gynecol 2012.

insurer expenditures, but also the productivity losses of the female participants in the study during their treatment and recovery. These cost categories were summed to compute the total economic costs for each procedure; however, we also present our data in disaggregated form to enable financial and other costs to be distinguished.

Australia has a public, universal health insurance scheme (Medicare) that involves zero-priced treatment for Australians who are treated as public patients. Thus, public admissions are funded directly by the Australian government including all costs of the admission.

The labor costs that were used in this study were calculated using data from operating room costs for all gynecological operations performed at the Royal Brisbane and Women's Hospital from July to December 2008 and were tabulated using Transition II software, the hospital's cost accounting system.

Total labor costs were divided by total operating time to achieve operating labor cost per minute and were as follows: anesthetist labor, \$8.06; surgeon labor (including assistant), \$7.04; and theater nursing labor, \$32.19. Ward costs were estimated to be \$785 per inpatient day and are listed in the Figure. Consumable costs included total vaginal mesh (Gynecare Prolift; Ethicon, Somerville, NJ) and suburethral obturator tape (TVT-O Gynecare; Ethicon) in vaginal group and trocars (Applied Medical, Rancho Sante Margarita, CA) self-styled Prolene mesh (15 × 15 cm; Ethicon) and hernia tacker to secure the mesh to the sacrum (ProTack 5 mm; Tyco Healthcare, Mansfield, MA) and are detailed in the Figure.

Under the no-gap private health insurance arrangements between insurers, hospitals, and practitioners, consumers are guaranteed zero copayment. Under this arrangement, the insurers reimburse the hospitals by paying a single fee that is based on the Commonwealth Medicare Benefits Scheme (CMBS) item descriptors, converted to diagnostic-related groups (DRG) using the International Statistical Classification of Disease and Health guidelines. The relevant DRG for all prolapse procedures performed vaginally and laparoscopically is N06Z and funds all operat-

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات